

ACCE News

Vol. 12, No. 2– March 2002

Annual Meeting in Minneapolis

The 2002 ACCE/AAMI Symposium

Perspectives for Successful Leadership in Clinical and Information Technology Services

Opening the 2002 AAMI annual conference and exhibition, the ACCE is presenting an all-day symposium entitled *Perspectives for Successful Leadership in Clinical and Information Technology Services*. This Symposium will take place at the Minneapolis Convention Center on Saturday June 1, 2002, from 9:00AM to 5:30PM. Clinical Engineers, Chief Information Officers (CIOs), BMETs, Information Technology (IT) specialists and others interested in healthcare technology will get an opportunity to hear a variety of speakers discuss IT-related clinical technology issues.

Specific presentations in the IT-focused morning sessions include: a CIO keynote, IT Project Management, Manufacturer's Perspective, Systems Integration Issues, Computer Security and Data Confidentiality and HIPAA. Presentations in the Clinical Engineering-focused afternoon session include: Global Perspectives on Healthcare Leadership, IT Basics (Toolkit) for Clinical Engineers, Managing Software Version Changes, Support Strategies for Integrated Clinical and Information Technologies, and "real world" case studies. The Symposium concludes with an open forum and discussion.

Make your reservations now!

INSIDE THIS ISSUE

➤ 2 President's Message	➤ 11 Meetings and Conferences
➤ 3 New Members	➤ 13 On the Move and in the News
➤ 3 Editorial – Waste and Bad Medicine	➤ 15 Workplace Profiles
➤ 5 Bob Morris Memorial Fund Opportunity	➤ 18 The View from the Penalty Box
➤ 6 Health Care Systems and the al Qaida	➤ 19 ACCE Board Highlights
➤ 7 HIPAA Update	➤ 20 EHTP in Kyrgyzstan
➤ 10 Certification Update	➤ 20 Calendar of Events

American College of Clinical Engineering

ACCE News

21 Bob's Lane

Setauket, NY 11733

ACCE News

ACCE Mission

1. To establish a standard of competence and to promote excellence in Clinical Engineering Practice.
2. To promote safe and effective application of Science and Technology to patient care.
3. To define the body of knowledge on which the profession is based.
4. To represent the professional interests of Clinical Engineers.

Web - Accenet.org

President's Message

Elliot B. Sloane, Ph.D., absloane@villanova.edu

"I'm mad as hell, and I'm not going to take it any more!" That was the famous line from the late actor Peter Finch. In the movie *Network*, Finch became a TV and cult celebrity when his proclamation sparked the public's pent up fury at the collective failures of business and government; Finch's proclamation is a good metaphor for today's patient safety failures.

As a clinical engineer at ECRI in the 70's and 80's, I saw the quirks and failures of medical devices and investigated and published the injuries and deaths that resulted. I spent plenty of time on the lecture circuit, too, trying to improve the training and performance of doctors and nurses. At MEDIQ, in 90's, I tracked the diffusion of medical devices – and very sick patients – to nursing homes, sub acute sites, and private homes. This trend accentuated the problems I saw at ECRI, compounding the problems of uncontrolled environmental settings, complex and inconsistent device designs and human interfaces, and ill-informed users.

In 1999, I had front row seats in hospitals for many months, and observed just how bad things were: I helplessly watched a team of nurses drop a patient with a pinned hip from a lift and saw a ham-fisted respiratory therapist angrily try to force an unlubricated nasal suction catheter down despite cries of pain. I watched in disbelief as an untrained and disinterested young nurse put a Yankauer suction catheter package on the bed for the family to figure out how to use because she didn't want to be bothered, and I stared at huge gobs of dust that clung to portable fans and on the floors in the patient rooms. I stared in disbelief at the hospital's bathroom cleanliness logs on the inside of the doors, which hadn't been signed in months,

explaining the waste paper on the floors and the dirty sinks. I observed the creation of a stage-3 decubitus ulcer because an arrogant and angry nursing director INSISTED her nurses always repositioned patients every half-hour despite my observation they actually spent most of their time in a distant corner typing at the computer system and avoiding patients. Lastly, I got to listen in on the daily, disrespectful dialog between specialists and their residents as those august groups examined the patients and proclaimed their conflicting diagnoses without considering or consulting the prior specialist teams. The problems went on and on, revealing a silo-based health system that has often become bankrupt of money, passion, compassion, and competence.

Soon thereafter, I closely observed the sub acute and home care world for a long period, the supposed new wave of efficient care that had redefined efficiency and efficacy by avoiding excessive burdens and complexities of tertiary care hospitals. Suffice it to say that the problems were even worse. In short, once the hospital and specialist handed off responsibility for the patient, the patient and family are almost entirely on their own. If you weren't lucky enough to have a strong family advocate, you were doomed to "sink or swim" care: if you sink, the facility saves desperately tight resources, and if you swim, you have to fight apathy and ambivalence to survive. Too harsh, you ask? Then why have so many of those businesses gone bankrupt in the past few years? Trust me: having watched the process closely, it's not one you should ignore.

We should be mad as hell, and cannot sit still and take this lying down! It is infuriating to see the same problems we documented in the 70's being repeated today. Patients are being dropped off lifts? Still? Also, it is unacceptable to give lip service to quality and then handcuff those who accept the mission or shoot the messenger hired to find the truth. Lastly, it's absurd to allow naïve, misinformed, or devious politicians, reporters or trade groups claim that patient deaths and injuries are folly and that malpractice is caused by the legal system.

Humbug! The problem is real, and it IS serious. Even if a death or injury is not immediately or directly caused by errors, it doesn't take much work to track the pain, inconvenience, and huge wasted costs that are hidden in other compartments of the patient care process. We are ENGINEERS. We're trained in systemic thinking that includes analysis, design, synthesis, and implementation and cannot afford to let others' illogical and ill-trained analyses substitute for

ACCE News

our own. Even though we ARE creating miracles each and every day, we have to proclaim that the emperor has no clothes whenever he is, indeed naked!

I call on ACCE's membership to form a new and passionate **Medical Errors and Patient Safety Committee** with the assistance of President-Elect, Ray Zambuto, and Vice-President, Ted Cohen. I ask YOU to accept the challenge and get this important job done right. Contact one of us to tell us how you can support this effort. Clinical engineering is a critical part of the future of health care. Make sure that you DO make a difference by actively creating a new and forceful voice in this battle. Get mad, get up and be counted!
- Elliot



Elliot Sloane

The ACCE Board

President	Elliot Sloane
President Elect	Raymond Zambuto
Vice President	Ted Cohen
Secretary	Izabella Gieras
Treasurer	Henry Montenegro
Member-at-Large	Vinnie DeFrancesco
Member-at-Large	Antonio Hernández
Member-at-Large	Jim Keller
Member-at-Large	Barbara Maguire
Past President	Jennifer Ott

Committee Chairpersons

AAMI Liaison	Ted Cohen
Advocacy	Thomas O'Dea
Education	Al Levenson
HIPAA	Stephen L. Grimes
ICC Liaison	Frank Painter
International	Thomas Judd
Membership	Steve Grimes
Nominations	Jennifer Ott
Public Affairs	Wayne Morse

ACCE News

ACCE News is the official newsletter of the American College of Clinical Engineering (ACCE).

ACCE News is a benefit of ACCE membership; nonmembers may subscribe for \$60. To subscribe call (631) 751-7244.

Copyright© 2002 by ACCE.

Permission to reprint will generally be granted with appropriate credit line. Contact the Editor.

Manager

Jim Keller, jkeller@ecri.org; (610) 825-6000

Editor

Joseph F. Dyro, Ph.D., CCE, FACCE, FAIMBE
21 Bob's Lane, Setauket, NY 11733
dyro@alum.mit.edu; (631) 751-7244; -7802 Fax

Assistant Editor

Ted Cohen, ted.cohen@ucdmc.ucdavis.edu

Circulation

Matt Baretich, ACCE.Secretariat@baretich.com

Photography

Tom Bauld, Tom_Bauld@PremierInc.com

Advertising

Kathy Zaverton, kzaverton@umcaz.edu (Rates & Deadlines)

Address corrections:

Matt Baretich
ACCE Secretariat
ACCE.Secretariat@baretich.com

ACCE Welcomes New Members

The following are the new ACCE Members elected during the period December 2001 through February 2002. Congratulations and welcome!

- Julio Huerta
- Paul Chesire
- C. Murphy Nmezi

The Year of the Clinical Engineer: Put an End to Waste and Bad Medicine!

Elliot B. Sloane, Ph.D., esloane@villanova.edu

In the last newsletter, I expressed my view on why health care is in such sad shape in many institutions. I think this is everyone's problem, and clinical engineers need to take responsibility, ownership, and action NOW, not wait until another death, incident, or new law tells us what we already know: it is ethically and morally wrong to allow patients to be hurt and resources to be wasted by passivity and ambivalence.

Here are a few suggestions to get the ball rolling.

ACCE News

1. As author Stephen Covey in *The 7 Habits of Highly Effective People* said, “*first things first.*” Let’s start by getting our own houses in order. Make a prioritized list of the gaps that exist and set a workable schedule for fixing them. For example, don’t let obsolete procedures fester in your files: put the most important ones on a schedule for retirement or revision. Meet with your team and give each person responsibility for getting a few key tasks completed by deadlines that they commit to. Then, give them your utmost support to make them succeed! You will find that a few successes go a long way towards rekindling everyone’s commitment.

2. Take Covey’s advice about “*sharpening the saw,*” too. Putting together even the most modest education program for you and your staff will yield dividends. Use the ACCE teleconference series or host a quarterly series of local training meetings for nearby clinical engineers and BMET managers. Invite insiders, like ACCE founders or board members or manufacturers to speak for an hour. Don’t forget to honor an appropriate nurse, doctor, or administrator, either. If you show that you respect their expertise, contributions, and commitment, you’ll be building important allies and learning a lot more about their partnership needs. Invite outsiders, too, like members of the local American Society of Quality (www.asq.org) or the Health Information Management Systems Society (www.himss.org). Don’t be stopped by formalities, either: meet after work with coffee and sandwiches if you need to. You are likely to find that even the very first meeting will re-ignite the attendee’s collective passion for their work, and will open their creative floodgates. Giving your group a name will breathe life into it, too. Try something like the “Regional Healthcare Technology Leadership Forum.” Don’t ask or expect your bosses’ support; it’s a lot easier to get forgiveness than permission. The boss has more than her/his own share of problems, and may instinctively balk at all suggestions for change until they are proven. Go ahead and get this started on your own, using whatever personal or institutional resources you have.

3. Nurture the passion and creativity! Stir the embers, fan the flames, but be sure to feed the fuel carefully. Strength and trust are forged with time, not just heat, and we need to create a durable collaborative model to win the battles ahead. Respect each participant’s areas of competence, especially in the face of the adversity they’ve surely confronted. Out of that, trust will begin

to build. Make some of the meetings private. Tell everyone to check their egos at the door, and have some frank talks about the problems you are each dealing with. This isn’t like playing poker, folks. The guy who claims no problems is surely bluffing, or worse, and the group would do better without him unless he looks a bit deeper and takes a chance by at least revealing a modestly significant issue that he’s wrestling with. Make time for some paired discussions and encourage the pairs to collaborate on resolving one priority item for each partner in the next three months. Have each pair report their progress to the group, and use every successful step forward as fuel for the fire you are building.

4. Build teamwork and leverage expertise. One member of your group may have good nursing relationships, another strong IT skills, and a third may have good senior management skills. Invent ways to build your own superstar team, using every member’s strong areas to help the team. If gaps are found, put two-person teams together to find ways to address them. Invite manufacturers, other ACCE members, or other organizations to help you improve your knowledge so you can close those gaps.

5. In due time, after the successes begin to accumulate, plan to expand the team to other parts of your hospital or company. You can assume the worst: others ARE having similar or worse problems in healthcare than you are. Initially, they are not going to be keen about admitting their own responsibility, nor are they going to welcome adding YOUR problems to their already-full plate. Instead, they are much more likely to accept an honest offer from your group to learn more about their challenges and perhaps lend a helping hand if possible. Invite one or two leaders to one of your meetings, and use a private session to begin having frank talks about a priority area of theirs that needs improvement. Force yourselves to listen, listen, and listen! Don’t rise to any accusations, either; if offered in this context, they are likely testing your sincerity and the safety of the meeting, not true attacks. Accept the criticisms as potentially valuable opportunities, because they may be areas of misunderstanding that can be cleared up sometime soon. First, build allies. Making it safe for your guests to express themselves is an important first step to expanding the group’s leadership role. An easy next step could be to help them solve their own problem, and begin to get to know the leaders in THEIR community.

You chose the field of clinical engineering because you knew that it could make a difference in the lives of patients, doctors and nurses. Seize the moment: recommit yourself to improve patient care and safety now, not tomorrow. Don't wait for others to approve or agree. Leadership takes courage; and this is a cause that is well worth the risk. Help ACCE create a new, vital, and passionate **Medical Errors and Patient Safety Committee** to give our community even more impact in the years ahead. Your leadership, courage, and expertise are needed to make it happen!

HHS Patient Safety Task Force

A Patient Safety Task Force, formed last year within the Department of Health and Human Services, will coordinate a joint effort among several department agencies to improve existing systems to collect data on patient safety. HHS Secretary Tommy G. Thompson charged the task force with working closely with the states and private sector in this effort.

The federal agencies leading this effort include the Agency for Healthcare Research and Quality (AHRQ), the Centers for Disease Control and Prevention (CDC), the Food and Drug Administration (FDA), and the Centers for Medicare and Medicaid Services (CMS – formerly HCFA).

The goal of this Task Force is to identify the data that health care providers, states, and others need to collect to improve patient safety. To start this process, the task force next week will release a contract request to develop a detailed plan on how to integrate the existing reporting systems in a way that minimizes burden, provides those who must submit reports an opportunity to learn, and improves the safety of health care services.

"Top-quality health care is a hallmark for America, and this administration is committed to patient safety and reduction of medical errors as a key priority," Secretary Thompson said. "As one part of our commitment, I am charging the Patient Safety Task Force to work thoroughly and expeditiously to improve our data and reporting systems. Working with our state and private sector partners, we can make much better use of the information we already collect, and we can translate that information into quality gains for patients. At the same time, we will streamline the reporting burdens that providers face today, and we

will make important findings more accessible, more quickly to the providers who need to know."

CDC, FDA, and CMS presently operate a number of systems to collect information that helps to monitor health care safety; compliance with existing regulations on blood products, devices, drugs; and the safety of patients in Medicare-funded institutions. Secretary Thompson has charged the Task Force with studying how to implement a user-friendly Internet-based patient safety-reporting format. This will enable faster cross matching and electronic analysis of data, and more rapid responses to patient safety problems.

This Task Force held an April 23-24 2001 summit, in Reston, Va., on the collection and use of patient safety data. The summit is being attended by representatives of medical professional organizations, state health departments, state licensure boards, accrediting bodies, patient advocacy groups and others with an interest in patient safety reporting. These groups will provide ongoing input on how to enhance the value of the data collected without creating any new federal reporting requirements.

HHS' fiscal year 2002 budget proposal includes up \$72 million, an increase of \$15 million over fiscal year 2001, for efforts to improve patient safety and reduce adverse events.

Bob Morris Memorial Fund Opportunity

This editor should like to clarify and expand upon a comment made on page 13 of the *ACCE News*, Vol. 12, No 1, that "*Brian Porras has received a check for \$600 from the NCBA... which will go to the Bob Morris Memorial Fund.*" Over the past 4-5 years the North Carolina Biomedical Association (NCBA) has kindly invited Marv Shepherd to present at their annual conference. They have paid expenses but Marv has not asked for an honorarium. This year (2001) he asked that a \$200-300 honorarium be provided but that it be made out to the Robert Morris Memorial Fund. The NCBA president, Brian Poplin of Duke University, and the NCBA Board voted to make the more generous honorarium of \$600.

Marv and this editor suggest this approach to other ACCE speakers as a way to increase the Bob Morris Memorial Fund.

Health Care Systems and the al Qaida; Two Views of System's Deficiencies

Marvin Shepherd, mshpherd@devteqpub.com

Introduction. With the recent national emphasis on patient safety, health care systems have come under greater scrutiny. The intent is to improve the performance of systems by identifying and eliminating the root causes of system's failures. However, this scrutiny is probably no greater than that given by the al Qaida when it studied the United States' defensive systems and systems used for normal living. The al Qaida studied these systems to identify deficiencies that allowed them to pass through them undetected or with minimum notice.

The "Swiss Cheese Model" of Systems and Accidents James Reason ⁽¹⁾ has identified a Swiss cheese model that illustrates how accidents occur. Each slice can represent a system. The holes in the cheese are the deficiencies in the system. He emphasizes that the holes open and close and move about for many reasons, *e.g.*, the equipment in the system might break down, the people might be inadequately trained, or the system might be mismanaged. The al Qaida plan for an "accident" required that the holes in the various systems line up and allow passage through all of them. (See Figure 1).

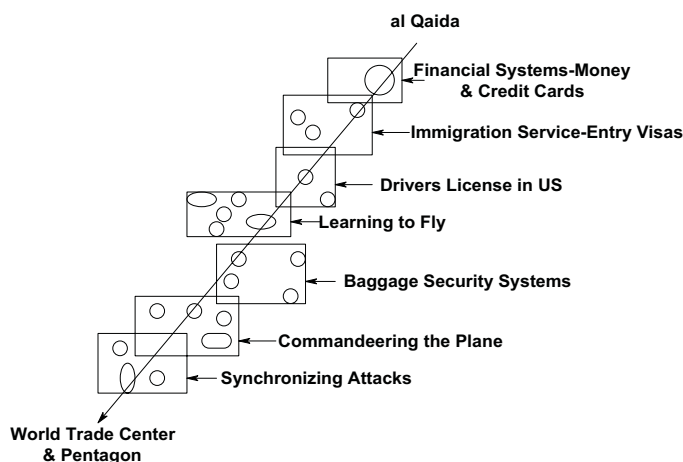


Figure 1. Systems Penetrated or Used By the al Qaida to Strike U.S. Targets

The Al Qaida View. In their plan to attack 4 sites in the United States, simultaneously, the al Qaida had to decide on the weapons to use (an airplane full of fuel) and how to best acquire 4 airplanes (via America's

own air lines). To achieve their goal, they had to get their 20 terrorist members into the US, had to get them onto 4 airplanes, and had to commandeer and fly the planes. In addition, for the time each terrorist was in the US, they had to be fed, clothed and housed while going undetected by any threatening US agency. The systems that they had to use or penetrate include the following:

1. Financial Systems-Money and Credit Cards. No United States or international banking system needed to be subverted to assure that the terrorists had adequate funding. However, the financial systems had to be used in such a manner as to not draw undue attention to the recipients.
2. The Immigration Service Systems-Entry Visas. Student and visitor visas are part of a system managed by the US Immigration Service and is intended to regulate the kinds of persons who enter the US as well as how long that they can stay. However, if the persons entering were not identified as disreputable, there would be no reason to exclude them. In addition, although some international terrorists or suspected terrorists may be identified by the CIA, FBI and others, the computers of these various agencies do not always communicate this to the US Immigration Service.
3. Drivers Licenses and Living in the U.S. If the decision was made to overstay a visa, if necessary, the terrorists must blend in, to some degree, with local populations. Identification such as drivers license might be needed. One or two of the terrorists arranged to buy false drivers licenses in Virginia. However, the police computers are not designed to identify driver's licenses of non-Americans who have overstayed their visas or have terrorist records.
4. Flying the Plane. At least one person on each plane had studied flying in the US. The flying schools train pilots to understand the multiple systems that allow safe flying—navigation, weather, aeronautics, flight control, and others. Unfortunately, the same system's skills taught to commercial pilots to do good can also be used by terrorists to do bad.
5. Baggage Handling Security Systems. Weapons were needed to threaten and control the crew and passengers of the aircraft. To reach the aircraft the metal detectors and baggage inspections would

have to be passed. The terrorists selected box knives as the weapons that they would use. The system's sensitivity to detect metal objects is set for larger objects such as a gun. In addition, although an occasional and casual bag search was performed, it would be unlikely that such a small object would have been seen or if seen not believed to be a serious weapon.

6. **Commandeering the Aircraft.** Five terrorists were intended to be on each plane. The exact role of each is unclear. At least one (if not two) was capable of steering the airplane. At least two or three were intended to terrorize the passengers and keep them and the crew in the back of the airplane. Without sky marshals or steel doors on cockpits, it is easy to imagine that the takeover of the aircraft was rather swift.
7. **Synchronizing the Four Attacks.** This last is the system devised by the terrorists but based on flight schedules, cellular phones and, possible, e-mail. The terrorists had to synchronize their efforts so that all four "weapons" were heading for their destination at about the same time. If one site were struck much earlier than another, other U.S. systems such as the U.S. Air Force might stop the other attacks.

The Health Care View. Health care is simply an assemblage of small systems (minisystems) that deliver health care benefits to patients. The "Swiss Cheese" model holds here as well. Following an accident, an analysis of the minisystems involved can frequently identify the deficiencies (latent causes) of the event. The event could then be modeled in the manner of Figure 1.

Conclusions. Health care systems are planned and designed to do good. However, even with the best designs, the system can occasionally go awry and do harm. Adverse events do provide some insights into the systems that allow adjustments to improve performance. The al Qaida studied U.S. systems in order to do bad. They probed all of the systems that might thwart their plan and found deficiencies in all of them. Even if the systems had simply detected the plot, the outcome might have been different

1. Reason, J. (1997) *Managing the Risks of Organizational Accidents*, Ashgate Publishing, Brookfield, Vermont.

HIPAA Update

Stephen L. Grimes, sigrimes@nycap.rr.com
Senior Consultant & HIPAA Project Manager
Technology in Medicine

On February 28th ACCE's HIPAA Task Force held its initial meeting. During that meeting, the group agreed its future focus should primarily be on issues dealing with interpretation of HIPAA's *proposed Security Rule*. With respect to *focus, issues and interpretation*, the HIPAA Task Force unanimously agreed as follows:

A. Focus (HIPAA Elements Relevant to Clinical Engineering):

The primary focus of this Task Force will be to assist our members by providing or identifying the tools and resources they need to help their organizations comply with HIPAA's Security Rule. The Task Force will not address in any depth compliance with other rules (*e.g.*, Identifiers, Codes and Transaction Set Rule, and the Privacy Rule) as the Task Force believes that clinical engineering as a profession will have little impact on those aspects of HIPAA.

B. Issue:

The biomedical devices and systems used by healthcare providers represent a substantial and growing area of risk with respect to HIPAA security issues. Hospitals typically have 300 to 400% more biomedical than IT devices and systems and their HIPAA-affected systems may include a substantial portion of that hospital's total biomedical inventory. There are two major trends contributing to the significance of this risk:

- 1) Biomedical devices and systems are being designed and operated as special purpose computers with more automated features resulting in increasing amounts of health data being collected, analyzed, and stored in these devices.
- 2) There has been a rapidly growing integration and interconnection of disparate biomedical and information technology devices and systems where health information is being increasingly exchanged.

While biomedical technology represents a substantial repository of health information, these devices and systems are often overlooked by what is frequently an IT-centric approach to addressing HIPAA security.

ACCE News

There are no reasons to delay security remediation efforts and several reasons to get started now:

- √ According to industry sources, finalization of the Security Rule is imminent ~ within the next couple of months.
- √ Senior members of HHS staff have repeatedly confirmed that there will be few, if any, substantive differences between the proposed and final Security Rule.
- √ HIPAA Security remediation can easily take up to the full 24 months allotted after the final rule becomes effective.

C. Interpretation (HIPAA Proposed Security Rule):

- 1) Who are the healthcare providers that will be affected by the HIPAA Security Rule?

The HIPAA Security Rule applies to virtually all healthcare providers (hospitals, outpatient surgery centers, laboratories, imaging centers, and group as well as most individual practices).

- 2) What type of information/data is affected by the HIPAA Security Rule?

Affected health information includes all health data related to an individual whether in a

stand alone or networked (connected) device or system and applies to data in any form (e.g., stored or transmitted electronically, displayed, imaged on film, printed on paper, or recorded on tape) whether the data explicitly identifies the individual or simply “relates” to an individual. Examples of this data include:

- √ *all diagnostic data, e.g. heart rate, BP, temp, medical image, and lab results or*
- √ *all treatment/therapeutic data, e.g. med dosage, radiation therapy, anesthesia, electroshock, defibrillator, and pacemaker.*

- 3) What are the relevant requirements of the HIPAA Security Rule?

The rule requires that the confidentiality, integrity, and availability of health information be assessed and appropriately maintained. Insuring the integrity (i.e., the data is accurate, authentic, verifiable, and accountable) and availability of diagnostic and therapeutic data has always been a, if not the, major goal of the clinical engineering profession. HIPAA’s Security Rule now adds another powerful regulatory incentive for providers to avail themselves of CE services. The Security Rule



ACCE is an educational partner for Clinical Engineering Sessions at HealthTech 2002, in Baltimore, Maryland on April 21-23. Sessions are planned to cover topics in JCAHO, HIPAA, ISO9000, Managing Radiology Service Contracts, Disaster Planning, and the Future of Clinical Engineering. ACCE will also have a booth at HealthTech and a general membership meeting.

To learn more about HealthTech 2002, go to www.healthtechnet.com. Baltimore is a great conference venue. Mark your calendars now! When registering, be sure to identify yourself as an ACCE Member to assure the lowest registration fee.

ACCE News

has also added a data confidentiality element to insure there are procedures and systems to facilitate enforcement of HIPAA's Privacy Rule. Confidentiality of data associated with medical devices and systems represents a new perspective for clinical engineering. HIPAA represents watershed legislation that, among its other effects, defines the standards for health data integrity, availability, and confidentiality. This represents the new standard for CE and CE must now focus on demonstrating that its services meet these standards.

Projects

The Task Force has agreed its first project would involve assigning a "general" risk level (for integrity, availability, and confidentiality) for biomedical equipment categories so that clinical engineers might use it to assess the scope of the remediation task before them.

HIPAA Task Force Members

Britt Berek CCE
Associate Director, Dept of Standards, Joint Commission for the Accreditation of Healthcare Organizations (JCAHO)

Jim McConnell
Systems Analyst, Information Systems Services
University Medical Center of Arizona

Frank R. Painter, CCE
President, Technology Management Solutions

Madelyn Quattrone, Esq.
Senior Risk Management Analyst, ECRI

Sunder Subramanian
Manager, Information Technology, University Hospital, SUNY at Stony Brook

Stephen L. Grimes (Chair)
Senior Consultant, Technology In Medicine

Come To AAMI 2002 With ACCE



Come join ACCE for 4 days of learning and fellowship at AAMI 2002 in Minneapolis MN. ACCE is an educational partner of the AAMI annual meeting and ACCE members have been heavily involved in the planning committee for the annual meeting, to assure that the educational program will be relevant and timely for clinical engineers.

The highlight of ACCE's activities will be the Annual Symposium on Saturday, June 1st. This year's topic is of critical importance to clinical engineers.

Perspectives for Successful Leadership in Clinical and Information Technology Services

ACCE will also be hosting a reception and annual meeting for members – a great chance to catch up with old friends and to make new ones! ACCE has arranged for its members to receive a discount on registration fees. For more information on the Annual Symposium or the AAMI 2002 annual meeting, go to www.aami.org or www.ACCEnet.org . See you in Minneapolis!

Certification Update

Caroline Campbell, Chair, Caroline.A.Campbell@MedStar.net

ACCE Status Report to the USCC - February 15, 2002

The USCC has approved a set of standards to be applied to the certification programs under its governance umbrella. These standards are very similar to those developed by the National Organization for Competency Assurance. The USCC is now forming a subcommittee that will determine the logistics of assessing the compliance of each certification program with its standards.

The CE Board of Examiners continues the laborious process of establishing a valid and credible certification program. Due to resignation of a couple of Board members, new members are sought. Any interested parties should contact any Board member for consideration. The members of the Board are Jim Wear, Bruce Barkalow, Dick Congdon, Gary Evans, Greg Davis, Joe Skochdopole, Paul Ostrowski, and Caroline Campbell.

All ACCE members are encouraged to attend a session at the AAMI annual meeting concerning certification on Monday, June 3rd from 5:45 to 6:45 p.m. A location will be provided closer to the meeting date.

Brief Overview of the Proposed CCE Program:

- 1) Board Construct
 - a. 13 members with Chair, Chair-elect, Secretary-Treasurer
 - b. Minimum of 1, maximum of 2 non-CCE members
 - c. ACCE will be the non-voting secretariat
 - d. One annual meeting in person, other meetings as required by conference call.
- 2) Eligibility Requirements

Option	Professional Credentials Educational Credentials	Engineering Experience ¹ Clinical Engineering Experience ²
1	Licensure in the United States as a Professional Engineer (PE) ³	3 or more years of clinical engineering practice ⁷
2	BS or higher degree in engineering (EAC/ABET accredited program) ⁴	4 or more years of engineering practice, including 3 or more years of clinical engineering practice ⁷
3	BS or higher degree in related fields of science or mathematics ⁵	6 or more years of engineering practice, including 3 or more years of clinical engineering practice ⁷
4	BSET degree in engineering technology (TAC/ABET accredited program) ⁴	8 or more years of engineering practice, including 3 or more years of clinical engineering practice ⁷
5	None of the above (for eminent candidates) ⁶	10 or more years of engineering practice, including 3 or more years of clinical engineering practice ⁷

Note: these eligibility requirements were patterned after the PE eligibility requirements.

- 3) Certification Process
 - a. Application with references submitted
 - b. Application review by US CE Board members
 - c. Written exam
 - d. Oral Interview
 - e. Renewal required to retain certification
- 4) Exam Construct
 - a. Based on ACCE definition of CE (as also formally accepted by the ICC) and periodic evaluation of the current CE body of knowledge
 - b. 150 multiple choice questions, five essay questions and an oral exam
- 5) Recognition of previously certified individuals
 - a. All individuals who achieved certification under the previous program by going through the exam process, who can show evidence of continuing clinical engineering practice and agree to abide by the rules of the new program (including periodic renewal) will be listed as renewed.
 - b. All individuals who achieved certification under the previous program through the grand fathering process, who can show evidence of continuing clinical engineering practice and agree to abide by the rules of the new program (including periodic renewal) will have their CV reviewed and approved by the CE Board of Examiners on a case by case basis prior to listing them as renewed.
- 6) Sequence of Events
 - a. Program approval
 - b. Recognize previously certified individuals
 - c. Begin testing new candidates.

Meetings and Conferences

20th Northeastern Biomedical Symposium

David Francoeur, dfrancoeur@fisherconsulting.com

The 20th Northeastern Biomedical Symposium was held November 5-7, 2001 in Sturbridge, MA. This successful symposium had two and a half days of updates on the latest technology offered by all the major manufacturers. Forty-six individual organizations turned out to show their support for the professions of clinical engineering and biomedical engineering technology. This is an impressive number in today's times of consolidation and cost containment. Many members of ACCE (identified in this article in **bold font**) were among the ranks of the organizers, speakers and vendors. A special thanks goes to vendor chair, Carolyn Mahoney, and all who participated.



Zambuto (l), Ridgway (c), Keil and Painter (l) sup with clinical engineering students enrolled in Painter's program at UConn
Photo by Dyro

From an educational standpoint, this regional symposium attained national levels of experience and talent from our Keynote speakers, **Malcolm Ridgway**, Senior Vice President of Technology Management, Masterplan, and Ode Keil, President, Safety Management Services, Inc. Malcolm came in from California to present, *The Impact of Technology on*

ACCE News

Healthcare: A Somewhat Personal Look Backwards and Forwards, in which he used his own life experiences to take us through the evolutionary process to where clinical engineering is today. Ode flew in from Illinois to take us from the present to the foreseeable future in his talk, *The Evolution of Medical Technology and the Impact on Hospital Based Biomedical Engineering*. It was a great eye opener sparking many minds into considering what action they should take to address the future in their programs.



Manny Roman welcomes all

Photo by **Dyro**

The usual tracks were offered, Management, Emerging Technology, Service Schools, and the CBET review and test. The program was packed with high-powered educational opportunities, refresher courses, and presentations to guide your clinical engineering endeavors in the most positive direction. High points included: Management- **Stephen L. Grimes** of Technology in Medicine presenting on HIPAA, the Y2K of today. Emerging Technology- Fred Zarinetchi, PhD of ABIOMED, Inc., who spoke about the developmental history of the AbiCor, state of the art totally implantable artificial heart. Service Schools- SIMS Level 1 offered a hands-on technical training course on their fluid warmers covering maintenance, repair and calibration. **Manny Roman**, President of DITEC, presented a course on the principles of radiology.

Eric Rosow spoke on virtual instrumentation. **Frank Painter** handled Codes and Standards. **Dave Harrington** gave a course on instrumentation. **Alan Lipschultz** covered clinical engineering management. **Henry Stankiewicz** facilitated a meeting of clinical engineers from New England Veterans Administration Hospitals.

Excellent wine and cheese receptions and social events, including an old-fashioned hayride followed by



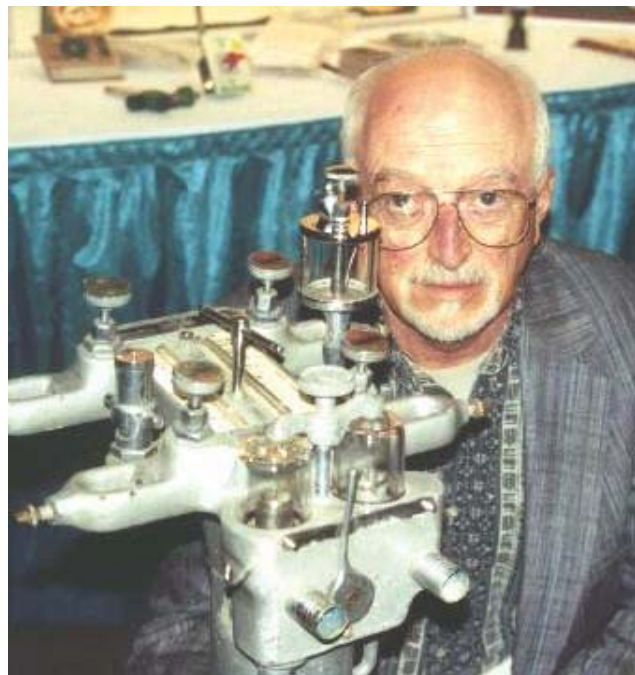
Noyes (l) and **Francoeur** decipher Wally Ball questions

Photo by **Dyro**

dinner at the historic Salem Cross Inn, afforded ample opportunity for networking and renewing friendships.

Surveys were sent to get participants feedback, with the hopes of improving future programs.

The organizing committee was comprised of Jim Brown, Ken Butcher, Tom Chenail, Doug Crawford, John Elwood, Carolyn Mahoney, **Nick Noyes**, and **Frank Painter**. They found that the work was hard but the results, fun and rewarding.



Medical Gas Services' **Bill Frank** (r) and ancient gas emitter

Photo by **Dyro**

New York City Metropolitan Area Clinical Engineering Directors Group

Ira Soller, isoller@downstate.edu
Group Coordinator

The New York City Metropolitan Area Clinical Engineering Directors Group, consisting of Directors of Biomedical/Clinical Engineering Departments representing all of the major medical centers in the greater New York City area met on March 5, 2002. Barbara Maguire of Weill Cornell Center of New York Presbyterian Hospital hosted the meeting.

A presentation and hands on demonstration of the daVinci Surgical System (recently used at New York Presbyterian to perform the first closed chest, totally endoscopic coronary artery bypass in the US) was provided by Steve Miata, Field Engineer.

Subsequent member discussion ensued relating to JCAHO requirements, Equipment Management Programs, job opportunities and other topics of interest to Clinical Engineering Directors.

Members present included: Jose Ruiz, Len Layvand, Joe Galan, Nat Etkin, Anthony Jarzembowski, Nick Pinto, John Bagatais, Allan Young, Victor Sarmiento, Michael Braff, Mike Bascombe, Mike Mirsky, Saul Miodownik, and Guy Scroco.

The next meeting is scheduled for Tuesday, April 30 from 4-6PM, at Weill Cornell, at which time Mike Gibney of Cardiac Science will give a presentation on "Sudden Cardiac Arrest and Therapeutic Cardiac Monitoring."

For information or for manufacturers and vendors interested in making presentations contact:

Ira Soller, Director of Biomedical Engineering
State University of New York
Downstate Medical Center, SMIC Box 26
450 Clarkson Ave.
Brooklyn, NY 11203.
(718) 270-3192 Fax: (718) 270-3194

On the Move and In the News

Dyro in Milano and Trieste

Joseph Dyro, president of the Biomedical Resource Group (Setauket, NY) gave an invited presentation in Milan, Italy, March 21, 2002. *Gestione dei Dispositivi Medici* (Medical Device Management) was the two-day conference sponsored by the International Research Institute and entailed the solutions, models and experience in the management of medical devices. Dyro led off the conference with his presentation on **Clinical Engineering Outsourcing: The USA Perspective**. He detailed the origins, development, current situation and the future of outsourcing in the USA. All other speakers were from Italy and represented ISOs, manufacturers, standards groups, hospital directors, government health officials, university educators, and clinical engineers.

Following the conference, Dyro accompanied Diego Bravar, who also spoke at the conference, to Trieste. There, Dyro met with personnel in the company Bravar heads, ITAL TBS, Italy's preeminent ISO with over 160 hospitals under contract. ITAL TBS is at the cutting edge of global developments in telemedicine, medical informatics, and computerized medical device technology management.

Grimes on Top of HIPAA

Stephen Grimes has been invited to speak on HIPAA and Medical Devices at a major healthcare IT conference, the Emerging Technologies and Healthcare Innovation Congress (ETHIC), June 19-21, 2002 in Washington, DC. Grimes, Chairman of the ACCE HIPAA Task Force, has been a busy beaver making

ACCE News

presentations on HIPAA from coast to coast, from San Francisco to Boston.

He is also scheduled to join ACCE President Elliot Sloane in Philadelphia on May 15, 2002 at the CIO Forum and Executive IT Summit. The Forum and Summit presents IT solutions in business for CFOs, COOs, and CIOs. He will speak at HealthTech in April and the ACCE Symposium and AAMI in June.

Roman Honored

The Biomedical Associations of Wisconsin have honored DITEC President and ACCE member Manny Roman with the first Benefactor Award. In a letter to Craig Mellem, BAW President, Manny said *"It is with pleasure and appreciation that I thank the Biomedical Association of Wisconsin for the great honor bestowed upon me. The Benefactor Award came as a very pleasant surprise. I am delighted to be recognized in such a manner by such a fine organization."*

Manny's company, DITEC, is the world's preeminent training institute for management of high tech imaging technologies. DITEC sponsors the annual Diagnostic Imaging Technology Education Conference, which will be held on May 22-24, 2002 in Cleveland, Ohio. For details, see the DITEC ad on the last page of this newspaper.

Patail's Program Praised

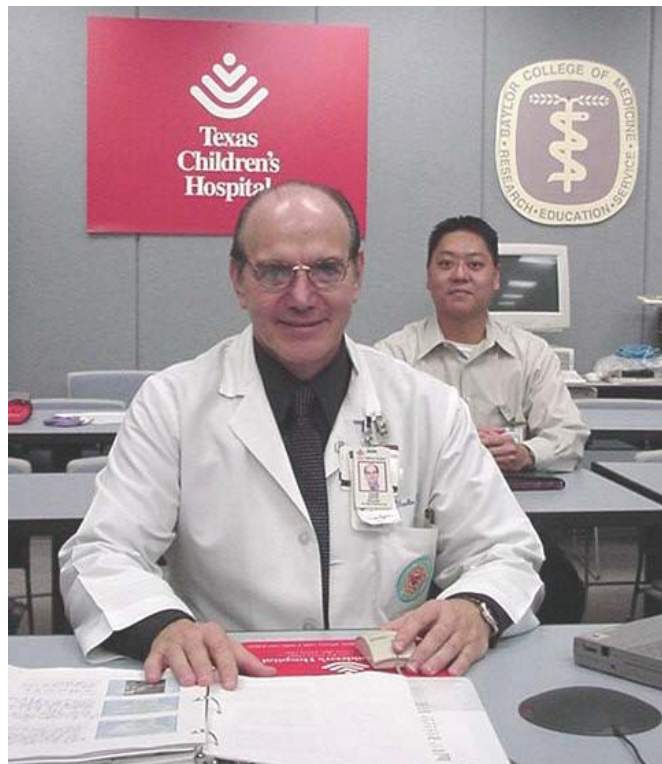
Brian Patail is a member of the VHA National Center for Patient Safety (See On the Move and In the News, *ACCE News*, November 2001, p. 6). The Center was recently honored for work in patient safety with a \$100,000 Innovations in American Government Award. The Center, formed in 1998, focuses on ways to improve the 163 VA hospitals overall by looking beyond mistakes by individual employees to the systems in which they work. The approach has increased reports of mistakes while improving safety because people feel more comfortable pointing out problems.

After a report is made, a team of about four employees spends six weeks reviewing system flaws that should be changed. The workers involved in the incidents are not identified, unless it is determined they intended to do wrong. An example from last year involved a pacemaker that malfunctioned, emitting an error code nobody could understand. The review team learned that the device's batteries should have been removed and reinserted, and a notice was later sent out clarifying those instructions in the operation manual.

The awards program is run by the Institute for Government Innovation at Harvard University's John F. Kennedy School of Government and is funded by the Ford Foundation. The award will be used for educational materials and for upgrades to the program's Web site: www.patientsafety.gov.

David, Yoshikawa and Wang Beam Down

Yadin David, Steve Yoshikawa and BinSeng Wang videoconferenced with the 3rd Symposium on Hospital Technology and Management held March 21-24, 2002, in Sao Paulo, Brazil. Yadin and Steve were at Texas Children's Hospital in Houston. Yadin's lecture was *Professional Ethics in Clinical Engineering*. Binseng Wang via videoconferencing from somewhere in the world presented a talk on *Trends in Management Models*. Eber Rodriguez Dos Santos from the SiroLebanese Hospital and Renato Sabatini from University of Campinas were session chairmen. During the Q&A portion following the presentation, a request to establish a database for case studies in Clinical Engineering Ethics was expressed. Yadin is willing to serve as a repository pending additional structure and definitions to support it.



David and Yoshikawa Live From Houston

Workplace Profiles

Hartford Hospital Hartford, Connecticut

Eric Rosow, erosow@harthosp.org

At Hartford Hospital, our Biomedical Engineering department has a strong focus on providing *strategic* and *value-added* services to Hartford Health Care Corporation's expanding network.

Biomedical Engineering is involved in a number of enterprise-wide activities. The multidisciplinary department currently supports a wide range of biomedical technologies and customers throughout Hartford Hospital, the Connecticut Children's Medical Center, the Institute of Living, MidState Medical Center and the various satellite facilities of Hartford Hospital. Additional shared service relationships with the Visiting Nurse Association, and over 75 other healthcare facilities within Hartford Health Care Corporation have also been developed. Collectively, our department directly supports and manages over 12,000 unique medical devices and systems.

Working Together



Biomedical Engineering integrated with Information Services in 1999, as it became clear that the futures of these two disciplines were becoming more and more intertwined. Medical technology is far more complex today than ever in the past, and in many cases, it is already

hard to distinguish between a medical device and a networked information system. This trend toward "smarter" medical devices and networked patient information systems is rapidly accelerating, and will continue to require the cooperation of highly trained Biomed and IS professionals as new medical technology comes online.

"Living with our Customers"

Biomed's often literally "live" within the many clinical domains of our hospital. Keeping our Radiology, Anesthesia, Respiratory, OR, and Dialysis equipment workshops close to the clinicians and patients means better service and better care. For those jobs that require us to "take it back to the shop", our service facilities in the basement of the Data and Bliss buildings give us space for bigger jobs and parts inventories.

In addition to our primary work supporting clinicians and caregivers of every type, our department also works closely with Administration, Planning and the Capital Committee on various

enterprise-wide initiatives. Over the past several years, Biomedical Engineering has played a significant role in helping our organization upgrade and standardize its medical technology. Examples of these include: anesthesia machines, ventilators, hemodialysis machines, defibrillators, patient monitors and beds.

We also collaborate with many other departments (such as Engineering, Environmental Services, Security, Environmental Safety, Patient Relations as well as other divisions of IS) on numerous joint problem-solving projects. These projects range from informal brainstorming sessions to large multi-year collaborations such as CORE, enterprise-wide patient monitoring networks, the OneStop Service Response System and Emergency Operations planning.

Radiology is one of the most rapidly evolving areas in medical technology. The incredible improvements in imaging modalities are helping doctors detect, diagnose and treat many illnesses earlier and better than ever before. This growing team of engineers and technicians trains continuously so that they can do most of the maintenance and support of these complex imaging systems in-house. In general, most other large hospitals purchase expensive annual maintenance contracts from manufacturers and outside vendors. Our ability to do this work in-house saves the hospital significant costs every year.

"Continuous Learning"

Continuous training is a key part of the Biomed profession, as it is for our clinical and IS colleagues. By staying current with new technologies and techniques, formal training and certification by the vendor, weekly "Lunch 'n Learn" programs, and continuously supporting and cross-training each other, we attract and retain a group of highly qualified professionals, able to fix nearly anything, anytime.

This capability and professionalism was evident in the highly positive results of our most recent customer satisfaction surveys in the spring of 2001 (which introduced a web-based survey tool purchased and piloted by our department). The last employee survey also found that Biomedical Engineering had one of the highest levels of employee satisfaction at Hartford Hospital.

"Supporting the Vision"

Biomedical Engineering continues to support Hartford Hospital's direction towards its strategic vision by focusing on performance improvement, customer service, expense reduction and revenue

ACCE News

enhancement activities. This is reflected in our department's Mission and Vision Statement.

Our Mission

As participants in the multidisciplinary patient care team, it is the mission of the Biomedical Engineering staff of Hartford Hospital to support the provision of exemplary patient care and enhance the effective use of healthcare technology through engineering, consultation, evaluation, operation, education and research and development.

Our Vision

Biomedical Engineering will provide customer-focused, quality, cost effective and innovative services to an expanding healthcare delivery system by assuring the safe and effective use of medical technology.

Departmental Organizational Structure:

The organizational structure of the department has been re-engineered to facilitate communication, cross training and sharing of "best practices" among all of the Biomedical Engineering service areas.

In addition to reorganizing the human resources of the department, a great deal of research and planning has gone into developing a comprehensive infrastructure for measurement, analysis and reporting. Without such a foundation, it is difficult to effectively satisfy the needs and expectation of our stakeholders and improve our performance through quantifiable measurements.

The Department of Biomedical Engineering is organized into Self-Directed Work Teams (SDWT's). These teams are illustrated and described below. Continuous education through internal and external resources allows the department and its respective SDWT's to continuously evolve and apply the principles of self-direction and management.



Figure 1: The Biomedical Engineering Team-Based Organizational Structure (SDWTs).

Respiratory Care, Operating Room and Anesthesia Teams: These teams support all the medical technologies within our ICUs, Operating Rooms, PACU, LIFE STAR, GI Lab and other clinical areas throughout the hospital.

Connecticut Children's Medical Center & MidState Medical Center Teams: Our CCMC team supports all Biomedical Engineering technology within the Connecticut Children's Medical Center. This shared service has been in existence since CCMC opened in 1995, and our team is proud to have been consistently rated one of their best contracts. In addition, Biomedical Engineering staff with specialty skill sets (such as Respiratory Care, Anesthesia and Lasers) are "triaged" throughout the year to meet the various requirements of MidState Medical Center's Medical Equipment Management Program.

Medical Electronics & Hemodialysis Teams: These teams support all operations within the ICUs, Emergency Department, Hemodialysis and other areas. In addition, these teams support technologies including: enterprise wide patient monitoring, the nurse call and paging systems and audiovisual systems.

Radiology Engineering Team: This growing team supports all the medical imaging needs of the institution by performing and overseeing the equipment service and maintenance of diagnostic imaging systems. Equipment evaluation, technology assessment, site planning and project management also key dimensions of this team's role.

Operations Support Team: This team consists of the Team Leaders, Clinical Engineers, our Business System Analyst, our Administrative Assistant and the department Director. As suggested by its name, the purpose is to support all operations within Biomedical Engineering and to align its strategic plans with those of the organization.

"Strategic Subsidiaries"

Figure 2 highlights the five "strategic subsidiaries" within Biomedical Engineering. Each of these areas are aligned with strategic plan of Hartford Hospital:

1. Medical Equipment Management Program: This program encompasses the "traditional" services provided by most Biomedical Engineering departments or independent service organizations. These services include: safety inspections, preventive maintenance, repairs, recalls, technical support and the documentation of all activities related to supporting medical technology.

2. Technology Assessment: This program relates to the assessment of new medical technologies and the planning for upgrading or replacing existing technologies. Activities include: pre-purchase evaluation, design and development of specifications, and consultation in the negotiation and design of innovative, risk-sharing agreements such as "cost-per-procedure" and "capitated contracts" for medical equipment and technologies.

3. Educational Programs: Performance improvement depends upon the capabilities, skills and motivation of our staff and our customers. Our department's success is dependent on continuous learning and application of new skills. It is an extremely high priority within Biomedical Engineering to invest in its people and customers through a host of ongoing education and training programs.

4. Research and Development Program: There are a number of ongoing R&D initiatives that have a significant impact on improving patient outcomes and reducing costs. Several of these projects/products have resulted in numerous publications, presentations and five patents for Hartford Hospital. These initiatives represent a unique opportunity revenue generation. Strategic partnerships with academic institutions, software development companies and medical device manufacturers provide complementary resources with respect to manufacturing, marketing and distribution of technologies and intellectual property developed within Hartford Health Care Corporation's (HHCC) network.

5. Shared Services Program: This program combines the collective skills and resources of the department and packages them into a comprehensive "service product" which is "sold" (at cost to members of HHCC) and "at going rates" to other affiliates or entities requiring equipment management services, technology assessment and/or educational consults.

The Clinical Engineering Internship Program at Hartford Hospital

The role of our Biomedical Engineering department is ever changing. It has evolved from the old 'fix-it shop' to providing a comprehensive equipment management program for a wide range of technologies. This has created a high demand for unique people with very special skills.

Part of our department's vision and commitment towards continuous learning began 25 years ago, with the hospital's

support of a clinical engineering internship program. Through this program, graduate students at the University of Connecticut are afforded the unique opportunity to perform two-year internship here at Hartford Hospital. This internship, (which results in Master's Degree in Biomedical Engineering) provides the students with a hands-on, interactive experience in the clinical environment and provides the hospital with an opportunity to utilize the technical background and research skills of the students for special projects.

Currently, there are four healthcare facilities (Hartford Hospital, University of Connecticut Health Center, Yale-New Haven Hospital, and BayState Health Systems) that participate in this program. Over the years, our department has had outstanding young men and women come from the best undergraduate Biomedical Engineering programs to perform their internship at Hartford Hospital. In addition to many US students, we have also had a number of students come from other countries and provinces including: France, South Africa, Dominican Republic, Puerto Rico, Bosnia and India. Many of our graduates go on to assume leadership roles in hospitals and the medical industry, others go on to medical school or start their own businesses.

Summary

Hartford Hospital's Biomedical Engineering Department continues to strive to provide strategic and value added services to its customers and stakeholders. The changing healthcare marketplace offers tremendous opportunities for improved and expanded services, revenues and innovation.

During the most recent JCAHO visit to Hartford Hospital, one of the surveyors paid an extended visit to the Biomedical Engineering department. After viewing our facilities, checking our systems and speaking with our staff, he favorably impressed. In fact, at the administrative debriefing the next day, this experienced surveyor suggested that our program be a "Best Practice Model" for other organizations, and told those present, *"your Biomedical Engineering department is the best I've ever seen."*

Biomedical Engineering: "Strategic Subsidiaries" (Core Competencies)

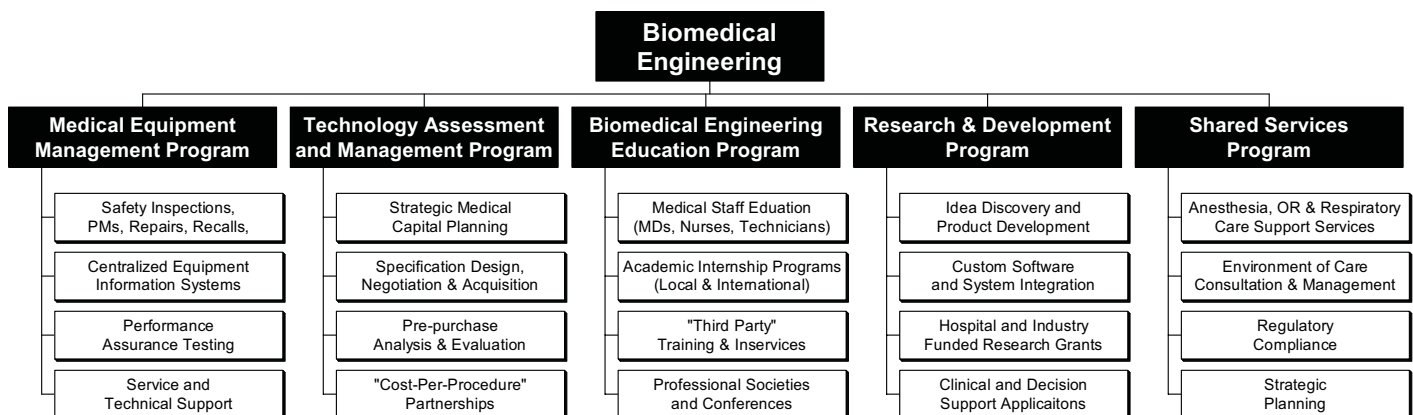


Figure 2: Biomedical Engineering's "Strategic Subsidiaries"

ACCE News

THE VIEW FROM THE PENALTY BOX

David Harrington, davesbt@kersur.net

During the recent Olympics we saw changes in age-old technology that enabled the athletes to go faster, crash more spectacularly, and set records. In the bobsled competition the U.S.A. won medals for the first time in many years. The sidebar to this story was the fact that for years we had been using technology from Europe that was a generation old. Well, a “good-old-boy” from NASCAR got interested and funded some research on new runners and controls; now we win. What makes it even stranger is that Jeff Bodine grew up here in New England before heading south to NASCAR.

The speed skaters, on the long track, use “clapper skates” that have a hinge on the heel contact to the boot. This allows the blade to stay on the ice longer, resulting in more speed. The time in the 1,500-meter race has dropped over 30 seconds in the past 8 years. The short track speed skates are not on the midline of the foot as are other skates but pushed to the edge of the foot so the skater can lean more in the corners.

The skiers use the short, contoured skies, giving more control, more speed, and the classic heartbreak-of-defeat falls.

When I played hockey my equipment weighted 27 pounds; and I did not use the chest protector or helmet, which might explain a few things about my mental condition. Now the equipment is less than 12 pounds, helmet included. Technology has enabled the athletes greater progress and those athletes have changed training and competition methods to take advantage of that technology.

What has happened in clinical engineering over that same time span? We have had fantastic technology changes but have we changed our duties, training and performance objectives to benefit from those changes. In far too many areas of our profession the answer is a resounding NO!!!!

Why haven't we made serious changes in our profession? Is it we are too comfortable? Is it we are afraid to rock the boat? Are we not thinking? I am not sure of the reasons but I would like to offer some observations and pose some questions.

Why is the safety meter ever taken out of the shop? In the millions or possibly billions of leakage tests,

how many devices have been discovered with a problem that was not indicated either by just looking or reported by the user? Why are defibrillators tested every day by the users on the floors and up to 4 times a year by us? Don't tell me it is to find battery problems because a good PM program replaces batteries on a calendar basis and good rounds assure that the devices are plugged in to charge. If a device has a set number of hours between inspections, why do we do electrical safety and performance tests between those hours? Other than cleaning the filters on a patient monitor what else needs to be done for PM? Can't we rely on the user to tell us if there is a problem? As with the electrical safety tests, have any problems been detected with these PM's on equipment designed since the mid-80's? If so, please speak up and let the world know.

We as a profession need to move away from the old mindset. The technology has changed to a degree that we need to spend more time on the correct application of technology than its “testing”. We need to update our policies and procedures to modern thinking as all the accrediting agencies are now allowing. We are the ones that are holding back the progress. Everyone else is saying change and we unfortunately are still saying let's do a leakage on that device.

Lastly I have it on good authority that Hell did not freeze over when the Pats won the Super Bowl. That will happen only when the Red Sox or Cubs win the World Series.



ACCE Board Meeting Highlights February 20, 2002

President's Report (Elliot Sloane)

Matt Baretich continues with his search for a potential candidate to lead the Medical Error Task Force.

A message was posted on the bulletin board on the ACCE website, raising questions regarding ECRI's involvement in the 510(k) reviews. Jim Keller has put together a memo that was posted on the bulletin board as a response to the original message. There were discussions of website review. Vinnie DeFrancesco expressed interest in pursuing some of the website related activities. Elliot is planning on continuing with the BMET teleconferences in March. The main objective of these meetings is to establish a closer working relationship between the CE and BMET groups.

President Elect's Report (Sloane for Zambuto)

HealthTech and AAMI ACCE activities are well under way with At Large Board Members involved in some of the organizing. Four Rivers Software has renewed their commitment to sponsor the ACCE membership reception at AAMI. Elliot Sloane received a lengthy letter from Andre Issakov outlining some statements and issues regarding the Memo of Understanding. This letter will be further reviewed to clarify some of the outlined issues. Barbara Maguire has done a fabulous job with the analysis of the membership survey results, which can be used as an excellent tool for strategic planning conducted by Jennifer Ott. The results will provide insight on how members would like to see the organization's future activities and involvements.

Vice President's Report (Ted Cohen)

Ted Cohen found a speaker for the IT security session for the ACCE Symposium. Ted will contact Matt Baretich to distribute a reminder to all ACCE members about the ACCE Symposium and Shirley Nycum from AAMI about increasing the advertising of the Symposium on AAMI's front.

Past President's Report (Jennifer Ott)

Jennifer continues to coordinate the monetary support for the Bob Morris Award that will be presented at the forthcoming AAMI conference. ACCE will submit several names for AAMI to choose from for the award. Jennifer is also in the

process of finalizing the list of Nominations for the Board.

Secretary's Report (Izabella Gieras)

Izabella provided a report on the secretariat's January activities. Ten renewing members contributed a total of \$485 to the Bob Morris Humanitarian Fund. A check with the total amount will be forwarded to AAMI. Many thanks go to Elliot who offered to match this amount 1:1. As of February 20th 2002, Matt has received 47 votes in favor of Bylaws changes and this constitutes the majority of members eligible to vote at the time the proposed changes were distributed.

Treasurer's Report (Henry Montenegro)

Henry reviewed the latest financial reports. It was noted that everyone is urged to let Henry know when he or she is accessing the teleconference number.

CCE Committee's Report (Cohen for Painter)

Process has been outlined with respect to the application, exam construction, and other issues.

Individuals who have been certified prior to this process and have shown continued practice will be recognized and, however, will still need to go through the regular renewal process. Individuals who have been grand fathered and certified under previous certification exams will be undergoing some kind of an administrative review to assess their qualifications.

Membership Committee's Report (Stephen L. Grimes)

The ACCE Board unanimously approved by vote three candidates for the ACCE membership. These are Julio Huerta (*Individual*), Paul Chesire (*Candidate*) and C. Murphy Nmezi (*Associate*). Grimes reported on the status of the membership drive mailings for membership upgrades and reinstatements.

HIPAA Task Force (Stephen L. Grimes)

The HIPAA Task Force is currently composed of 4 members with impressive backgrounds who will definitely enhance the operation of the task force. At the recent HIMSS meeting, Ray Rada, chair of HIMSS's HIPAA SIG, expressed an interest in collaborating with the ACCE HIPAA Task Force.

Education Committee's Report (Alan Levenson)

The education committee is in the process of soliciting topics for the forthcoming teleconferences.

The income is on budget and the teleconferences continue to be a successful and valued service.

ACCE News

Advocacy Committee's Report (Sloane for O'Dea)

Unfortunately, Tom O'Dea will not be able to carry on with the duties of the Advocacy Chairperson due to health complications. Ray Zambuto is in the process of contacting the existing Advocacy Board members to find a candidate who would take over Tom O'Dea's role as the Advocacy Chairperson.

Newsletter Report (Joe Dyro for Jim Keller)

Jim proposed a newsletter publication schedule and an addition of an ECRI column with an objective to help ECRI raise its profile in the Clinical Engineering community. Kathy Zaveron, the new advertising manager together with Jim updated the documentation about advertising in the newsletter, the advertising application, and price structure for the ads. Kathy is using these documents in her solicitation.

EHTP in Kyrgyzstan

Thomas Judd, tom.judd@kp.org

Okay, what's EHTP? For that matter, what's Kyrgyzstan? And why would you care?

EHTP is the Essential Health Technology Package, a resource planning and management methodology that the developer, the World Health Organization (WHO), expects will allow health system leaders to improve effectiveness, efficiency, performance and quality of health delivery. Peter Heimann of South Africa led the development effort. He won an international award last year among top scientists and engineers for its creation.

EHTP software fits on a laptop. It is intended to assist developing countries (not to mention the rest of us) as a tool to better manage limited health resources, such as personnel, drugs, equipment and facilities. Databases of all aspects of these resources are linked according to clinical protocols by diagnoses. Introducing the tool across the world gives clinical engineers a significant chance to make a difference away from home.

EHTP's key features:

- ◆ Integrates management of these resources to allow more efficient distribution
- ◆ Focuses on the country's disease burden
- ◆ Uses best medical evidence from around the world to direct care at all levels

- ◆ May be dynamically updated with advances in medical technology

And what's Kyrgyzstan? A developing country in central Asia. Go to Afghanistan and turn north a couple countries. It's about the size of Nebraska but with 5 million people and peaks nearby as tall as McKinley. Two thirds of the people live in rural areas not unlike the alpine plains of Montana. Mountain passes above 10,000 feet are routine travel routes. The capital city of Bishkek sits at the edge of these snow-capped ranges. In this beautiful land, half the folks are native Kyrgyz and half have many other ethnic backgrounds led by those of Russian descent.

So why is ACCE and why am I interested in this? In late summer of 2000, I joined other ACCE members Bob Morris, Al Jakniunas, Antonio Hernández, Jonathan Gaev, and Jacob Shnyder with about 20 other international colleagues to train with EHTP to bring it to "high priority" developing countries who had urgently requested help. We were paired off and assigned countries and practiced how we would present the tool and its methodology for use to various health officials beginning in 2001. You won't be surprised to hear that Bob was the most respected person there; the man is a legend all over the world.

I was personally interested in the tool because it appeared to solve the really difficult question of "*what is appropriate technology*" for a given country and because I had visited this place twice before in the 1990's doing healthcare missions (volunteer) work and had friends there - several expatriates as well as Kyrgyz people, including two CEs from our 1993 ACCE Workshop.

ACCE of course has been involved for over 10 years training and learning from our international CE colleagues in health technology management through the Advanced Clinical Engineering Workshops that Frank Painter directs. Through the International Committee that facilitates these workshops and other activities, ACCE acts as a coordinating body for improvement of CE skills and for the exchange of technical information with colleagues around the world. It also aids in the development and application of professional standards for the management and support of health technology. Like the workshops, here was another opportunity for us to participate firsthand in impacting a whole health system, natural extension of what we do every day back home, and assist friends from those workshops.

ACCE News

So what happened next? A lot. But I will spare you the details and just give some highlights of 2001 and EHTP for me.

Sure, I was scared about my inadequacy entering this project. What do I know about working with the Minister of Health (MOH) and staff of a developing country about such things? Well, it turns out these folks are a lot like us, different culture of course, but smart, motivated, well-educated, and trying to do a hard job with amazingly few resources by our standards.

In March, I traveled the 10 time zones from Atlanta to Bishkek via London, where I met up with Peter (the inventor). We actually were in country only three full days. The purpose was to present EHTP to 50 health leaders to get an informed commitment to work with us when we came back. During that time, we saw the best of their adult and children's hospitals, made our presentations and got their buy-in. We met old friends, made some new ones, and sampled some culture with the MOH and others.

By the way, the MOH is a gutsy guy. He is a 50-year old distinguished cardiologist and professor. He had in 1999 initiated health reforms that sent many physician specialists in Bishkek back to training to become family practitioners in rural areas where needed.

In July, I went back for three weeks. I was lucky enough to take my wife. Ann teaches English to international kids at home and taught adolescents and adults while there. Peter did just-in-time further training in London on the way and I entered this beginning implementation phase unfortunately without an on-site partner. But Peter explained to me that this trip was more about building relationships, explaining method, and bringing the right people together, and less about tackling technical challenges. This is the sort of stuff I do these days back home, so it didn't feel too weird.

It became like putting a large puzzle together. I was in a detective role, discovering whom I needed to meet each day to bring into the project and how they could help. By day, headquartered with the friendly folks in the WHO office with their people-networking capability, helped by an English-speaking liaison at MOH, and graced with a car, driver, and translator always available for me, we got things done. If I mention all the names, it will make you dizzy, but Oscon (40-year old physician) heads the WHO office,

Boris is a 55-year old physician with MOH, Kalipa (single mom) is translator, and Ishen (former Soviet Army guy) is the driver. By night, Ann and I met with western friends, like the ones who train family practice doctors there or the ones who help run a center for abused or abandoned children.

One thing EHTP requires for success is a National Coordinator with good political ties to the MOH that can direct the project's implementation in country and keep things moving. Marat Mambetov, MD, is such a person. A young guy, only 46 to my more aged 51, we hit it off from the beginning. Marat is an internist, a TB specialist, national director of medical equipment and drugs, and a fun person. (Okay, he and Peter and I had shared some "wodka" back in March with the MOH.)

This was Ann's first trip there and we started out making life more Western for her to limit culture shock, staying in a hotel for five days. However, then I left town for a road trip and she stayed with American friends there. To assist with her teaching, she had a 23-year old translator named Askhat, a.k.a. Ace.

Ace is a third-year law student and a buddy of mine from a 1999 mission trip to a rural part of the country with a healthcare team from the U.S. By the end of the three weeks, Ace had taken Ann all around the city and became a veteran with the culture, riding the buses, shopping, and eating the food. On my previous trip, I had taught Ace poker; this time Ann and I introduced him to "Mexican dominoes" (it turns out to be a fun game, ask me about it sometime.) Ann ending up teaching English to about 20 beginning students and 20 intermediate students in the animated "American-style" fashion they were not used to, had a lot of fun, and was well beloved by her students.

During the first week, I began to meet with several key players in Bishkek for the project. Folks included Tobias, a 40-year German physician leading a key donor's project in a rural province where we would do a pilot project, Vlad and Nick, co-owners of a medical equipment consulting firm who are auditing and building the country's device inventory, two key physicians overseeing hospitals and clinical protocol development, other CE-types who have been involved with fledging medical equipment management activities, and some westerners who understood the health system.

ACCE News

An initial challenge was to determine which 5-6 key medical conditions affecting the country should EHTP methods be focused on or, in other words, “where was the most symbolic and actual bang for the buck?” It was clear the list would include hypertension and tuberculosis. We later added acute respiratory problems in children, anemia for pregnant women, and brucellosis – a disease affecting animals and the people who care for them.

To develop a relevant case study to use to clarify the potential of EHTP, at the end of the first week Dr. Mambetov and I led a small group of the folks named above in analyzing how hypertension gets treated at both the national level at the teaching hospitals, at the district level (larger community hospitals) and at the local level (typically by family practice doctors and nurses in the village settings.) We analyzed what the current health resource barriers and challenges existed to provide care at these three levels. For example, we determined whether necessary drugs were available and affordable, whether necessary equipment and supplies were available, and the status of existing health facilities and personnel to accomplish needed care according the clinical practice protocols adopted by the health system as most effective.

One very powerful aspect of EHTP is that it allows you to model how existing resources will be used to meet the requirements of the protocols, show critical gaps, and show the financial and logistical impact of changing the protocols. The goal here is to use medical evidence-based clinical protocols that will lead to best clinical outcomes fit to available resources.

Starting the second week, a group of us was driven through the mountains to one of the poorer provinces several hours south of the capital. I had seen this area on the 1999 trip but am still amazed at the 70-degree inclines, the beautiful landscape and how fast we went on bad roads. We went to visit three district hospitals and meet with provincial health leaders. At the first hospital we toured, the first physician administrator noted that they treat patients for the U.S.-equivalent of 12 cents per day. Needless to say, I was humbled. Nationally, there are ways they are trying to reform the financial burden of care and I saw evidence of progress. At another of these hospitals we were 35 km from the Chinese border. There is nothing like having fun neighbors; actually there is a fair amount of trade going on now. In Soviet days, however, this area was staging ground for a major military force, due to its strategic location.

During a day-and-a-half seminar with 25 provincial physician and nurse leaders, we explained the EHTP method and asked them to apply these principles to their greatest health needs, using the hypertension case study as an example. Three of four work groups we divided them into chose brucellosis as the health condition to find better care solutions for using EHTP. This region during the Soviet days was responsible for raising some 50,000 head of sheep to help feed the empire. Today, still a lot of sheep and other animals but a terrible economy with nobody buying and with many animals and people affected by this disease.

The forth group chose anemia to discuss. 80% of pregnant women in the country are anemic; it turns out that the prenatal vitamins widely available in the U.S. could reverse this problem immediately. At the end, I also gave an impromptu seminar on medical equipment management and then partnered with one of the physician hospital administrators to present how these principles applied to facility management as well.

This “provincial or district-level” group provided some good ideas for implementation of EHTP. Once again, I was surprised to find a highly educated and motivated work force, fighting against major barriers and doing their best. This area will be the sight of an EHTP pilot in 2002 and I look forward to returning to assist in solving some of the problems. Peter told me a great joke about consultants (like him and me) that I shared with this group and was well received.

It seems that there was this consultant who came to visit a farmer one day in a nearby village. My team in 1999 had visited a village nearby providing primary care to 1,000 of the 6,000 villagers in three days, so I had no trouble visualizing this story. He asked the farmer, “*if you can guess how many sheep the you have, would you give me one?*” The farmer said, “*Of course (stupid foreigner), how could you know ... I would do this if you guessed correctly.*” The consultant then called through his satellite phone to have satellite imagery done of this area and to have all the warm (sheep) bodies counted. He then told the farmer the answer that was correct, and selected his prize. The foreigner then asked, “*if you can guess my profession, I will give the animal back,*” to which the farmer agreed. The foreigner was surprised when the farmer correctly answered, “*you are a consultant ... and I know this for three reasons! (1) You were not invited; (2) you told me things I already knew; and (3)*

you have no idea what you are talking about. Now give me back my dog!"

After this brief adventure, my group headed out back through the mountains for a new location. We were going to meet some others for a long "working" weekend at one of the most beautiful places in the country. Lake Issyl Kul is said to be the second largest alpine lake on earth, over 100 km long, many km wide and 2,000 feet deep and at a mile-high altitude. In Soviet days, they practiced with torpedoes in this lake. It is ringed by snow-capped mountains and in July is brisk but swimmable. Ann and some others from the capital met us the next morning and we spent a couple days enjoying the area and working. A core team of us - folks I named above - mapped out some key EHTP implementation issues: Issues like how to make best use of a medical equipment inventory gathered for 40% of the country, how to establish a nation-wide equipment management program, and how to ensure high quality equipment, supplies, and drugs at affordable prices through use of leverage.

It was an important time for visualizing solutions to real problems but also building solid relationships and having some fun. After an "Uzbek" feast one night (people from the westerly neighboring country of Uzbekistan co-owned this lake resort), we visited a natural pier at a nearby site on the lake after midnight. I have never seen the night sky so clear and so beautiful right down to the horizon. - an unbelievable view of the constellations and several planets and a chance to share this with my wife and new friends.

From the lake, we returned back to Bishkek for the final 10 days. We moved into a western friend's apartment, Ann continued her teaching, and I began the process of trying to bring the correct high-level

group together to finalize detailed plans for future implementation. Suffice it to say that this happened.

A pilot project is planned both in the capital and in the province we visited. We ended with four working groups, each with senior MOH staff leadership, with clear issues to be working on. There was a commitment made to establish an EHTP coordination office with a small, full-time staff to coordinate ongoing activities. I ghostwrote with help from the core team an "Executive Task Order" for the Minister of Health that he was to publish later in 2001 as the blueprint for EHTP full implementation in the health system there over the next two years with clear tasks and goals for each working group and the coordinating office. If this is of interest, I would be happy to email it to you, a 7-page Word document. Request through tom.judd@kp.org.

So, overall, other than the casualties of a hurt back (resulting from carrying my wife's and my heavy foot lockers - containing books and stuff to give away - through London airports on the way), and a hurt laptop (stupidly dropped by me halfway through the trip and rendered unusable until repaired at home), we had a wonderful and very rewarding time. And my day job was still available upon returning home. We had just had our three-year accreditation survey in late June, and apparently it had gone well.

I look forward to going back this year. An October 2001 return visit was postponed due to the war. ACCE President Elliot Sloane is discussing with WHO about bringing EHTP training to a U.S. site sometime in 2002. Long-term success of EHTP will involve an international network of folks like you and me who can recommend solutions to difficult resource management challenges. Maybe you want to get involved. Talk with Elliot and me.

Calendar of Events

- HealthTech 2002, April 21-23, 2002, Baltimore, MD. Contact Ray Zambuto, www.techmed.com.
- 5th Annual ACCE Symposium, June 1, 2002, Minneapolis, MN. Contact Ted Cohen, www.accenet.org.
- AAMI, June 1-4, 2002, Minneapolis, MN, www.aami.org.
- IEEE/EMBS, October 23-26, 2002, Houston, TX, www.embs-bmes2002.org.
- 2nd European Medical & Biological Engineering Conference, Vienna, Austria, Dec. 4-8, 2002, www.embec.org.
- 25th Annual International Conference of the IEEE Engineering in Medicine and Biology Society, September 17-21, Cancun, Mexico. <http://itzamma.uam.mx/cancun>.
- World Congress on Medical Physics and Biomedical Engineering, Sydney, Australia, August 24-29, 2003, www.wc2003.org.

ACCE News

ACCE EDUCATIONAL TELECONFERENCE PROGRAM

- May 16, 2002 *Getting Respect for you and your department* — Dave McCanna, Corporate Director, Forum Health-Trumbull Memorial Hospital, Warren, Ohio
- June 20, 2002 *EMI in the Hospital, The REAL Scoop* — W. David Paperman, Formerly (now retired) of Texas Children's Hospital, Houston
- July 18, 2002 *Just how ARE you gonna deal with the JCAHO?* — Manny Furst, Ph.D., CCE, PE, Sharp HealthCare, Memorial Hospital, San Diego, CA
- August 15, 2002 *Can Clinical Engineering Departments REALLY do anything about Human Error?* — Marvin Shepherd, PE, President, DEVTEQ, Walnut Creek, CA
- September 19, 2002 *Repair or Replace? The MBA's Point of View* — Binseng Wang, Sc.D., CCE, National Quality Director, MEDIQ/PRN, Pennsauken, NJ
- October 17, 2002 *'Star Wars' Technology and Maintenance of Hospital Equipment* — James O. Wear, Ph.D., CCE, Professor, Biomedical Instrumentation Technology, University of Arkansas for Medical Sciences
- November 21, 2002 *Being Proactive (VA's HFMEA style) and Reactive (ECRI style): Preventing and Investigating Incidents* — Bryanne Patail, National Center for Patient Safety, And Arbor, MI, and Mark E. Bruley, Vice President for Accident and Forensic Investigation, ECRI, Plymouth Meeting, PA
- December 19, 2002 *Remote Diagnostics—Where are we today?* — David Harrington, MBA, Technology in Medicine, Holliston, MA.
- January 16, 2003 *Benchmarking: Who Needs It?* — Yadin David, Ph.D., CCE, PE, Director, Biomedical Engineering, Texas Children's Hospital, Houston, TX

Registration – contact Alan Levenson at 800-222-5776 x5310 or e-mail to Levenson@qti.net

The cost of each one-hour noontime (12 EST) Teleconference is only \$125 including handouts

Announcing the Ninth Annual!!!

ATTEND!

Call
(440) 519-1555
for your
Information Package

**DIAGNOSTIC
IMAGING
TECHNOLOGY
EDUCATION
CONFERENCE**

EXHIBIT!

Visit
www.DITECnet.com
for
More Information

SUNCHASER PHOTOGRAPHY © 1990-99

May 22-24, 2002 Cleveland, Ohio

**With Over Sixty Seminars on Today's
New Technology, Management Skills, Professional Development,
Multivendor Service, Regulatory and Performance Environments,**

YOU JUST CANNOT AFFORD TO MISS

ISO9002
Documented Quality

DITEC 2K2

Five-Time Winners - 24X7 Readers' Choice - Best Training Programs

Diagnostic Imaging Technical Education Center, Inc. State of Ohio Board of Proprietary Schools Reg. # 94-05-1398T